

## THE VARIETIES OF CARDAMINE OLIGOSPERMA.

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IN a package of plants recently sent to the Gray Herbarium by Mr. W. N. Suksdorf of Bingen, Washington, were included several forms of *Cardamine* allied to *C. oligosperma* Nutt., which he had been unable to place to his satisfaction with the aid of the literature at his command. His keen observations and painstaking notes leave little, however, for the herbarium worker to do. Quotations from Mr. Suksdorf's notes will make the situation clear.

"1816, 7487, 7453 seem to be the common form west of the Cascade Mts., and up the Columbia some distance in the mountains; I have not found it east of the mountains. I distributed this form as *C. oligosperma?*, having before distributed the next one as true *C. oligosperma*. The stem is strict, not often branched, has 4 or more leaves and a very short raceme; young pods hairy; seed mostly rather long.

"7452, 7457 are certainly distinct from *C. oligosperma*, and I think they represent an undescribed species. It is not so strictly erect, less pubescent or nearly glabrous; stems often scape-like or leafless, or with a few branches, mostly large ones if from the base; raceme very much longer; pods mostly narrow, not pubescent, and the pedicels longer; seeds nearly orbicular.

"7451. There can scarcely be any doubt that this *Cardamine* is an undescribed species. I have found it only at one small place, much less than a square rod in size; but I have not looked for it, and so may find it at other places later. It certainly cannot be a form of any one of the above species. Its leaves have fewer leaflets, those of the stem having only 3 or 5; it is glabrous throughout or very nearly so; branches, if any, mostly leafless; pods rather short on short pedicels; but the most important fact seems to be that the flowers come from the axils of conspicuous bracts, especially the lower ones. These bracts are not found everywhere, but I think I have not seen a raceme without any bracts."

It appears, then, that we have three plants all closely related to *C. oligosperma*: a form with a bracted inflorescence; and two bractless forms, one with glabrous, the other with hairy pods. To this series may be added the plant described by Rydberg as *Cardamine unijuga*,



the leaves of which have only 3 leaflets,—doubtless merely a leaf variant.

Turning to O. E. Schulz's recent *Monographie der Gattung Cardamine*,<sup>1</sup> we find that all these forms have been recognized; but unfortunately the fact that Schulz was unfamiliar with the type of Nuttall's *Cardamine oligosperma*, and that his conception of the relations of the various subspecific categories was not altogether in accord with those since set forth in the International Rules, necessitate the following changes.

CARDAMINE OLIGOSPERMA Nutt. in T. & G. Fl. N. Am. i. 85 (1838–40). *C. hirsuta*, subsp. *oligocarpa*, proles *lasiocarpa* O. E. Schulz. Engl. Bot. Jahrb. xxxii. 470 (1903). Nuttall's type, from "Oregon woods," preserved in the Gray Herbarium, bears immature fruit, and has the stems, petioles, leaflets, and pods beset with short stoutish spreading hairs; and the inflorescence bractless. This, the typical form of the species, is confined to Washington and Oregon.—WASHINGTON: wild in garden, Bingen, Klickitat Co., *Suksdorf*, no. 7453; wet places in forest at Prindle, Skamania Co., *Suksdorf*, no. 7487; bottom lands near mouth of Lake River, Clarke Co., *Suksdorf*, no. 2301. OREGON: Oregon woods, *Nuttall*; wet places in dense forest at Linnton near Portland, *Suksdorf*, no. 1816; Sauvie's Island, 1882, *Howell*.

var. **lucens**, var. nov., siliculis glabris, pilis caulis saltem super foliis carentibus. Pods glabrous, hairs of the stem absent, at least above the leaves.—*C. oligosperma* Am. auth. in part. *C. hirsuta* subsp. *oligosperma* O. E. Schulz, l. c., 468.—This smooth variety is much more abundant than the species, extending south to California. The following representative specimens may be cited.—WASHINGTON: damp places, common at Bingen, Klickitat Co., *Suksdorf*, no. 7452 (TYPE in Hb. Gray.); shady rocky stream-banks, Waitsburg, *Horner*, no. R79B64. OREGON: Chenoweth Creek, Wasco Co., Oregon, *Sheldon*, no. 10,200; bogs near Portland, 1884, *L. F. Henderson*. CALIFORNIA: Mt. Diablo, 1878, *Lemmon*; foothills near Stanford University, Santa Clara Co., *Baker*, no. 517; back of Alum Rock Park, Santa Clara Co., *Heller*, no. 8484; common in moist shady ground, vicinity of Eureka, Humboldt Co., *Tracy*, no. 1009.

var. **bracteata** (O. E. Schulz), n. comb. *C. hirsuta*, subsp. *oligosperma*, var. *bracteata* O. E. Schulz, l. c., p. 470. This plant, which resembles var. *lucens* in its lack of pubescence, but differs from that and from the species in having narrow simple or trifid bracts at the base of the inflorescence or throughout, is known only from two collections of Mr. *Suksdorf* in Klickitat Co., Washington; viz., low wet places,

<sup>1</sup> *Monographie der Gattung Cardamine*, von O. E. Schulz., Engl., Bot. Jahrb. xxxii. 280–623 (1903).



Columbia River, 1885, no. 503; springy place over a cliff, Bingen, 9 & 15, April, 6 May, 1912, no. 7451.

var. **unijuga** (Rydb.), n. comb. *Cardamine unijuga* Rydb. Bull. Torr. Bot. Club, xxiv. 246 (1897). *C. hirsuta*, subsp. *oligosperma*, proles *unijuga* O. E. Schulz, l. c., 469.—MONTANA: Spanish Basin, Gallatin Co., July 18, 1896, *Flodman*, no. 494 (TYPE collection). WASHINGTON: wet ground, W. Klickitat Co., May 5, 1881, *Suksdorf*, no. 723. Rocky Mts., lat. 39°–41°, 1862, *Hall & Harbour*, no. 33 in part. California: damp grassy places in the cañon of Big Chico creek, Butte Co., March, 1914, *Heller*, no. 11,196. Plants of var. *lucens* collected at Paradise Creek, Mt. Rainier, Washington, Aug. 23, 1895, by *O. D. Allen* approach var. *unijuga*.

GRAY HERBARIUM.

## A NEW CAREX FROM NEWFOUNDLAND.

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CAREX (FRIGIDAE) **misandroides**, n. sp., laxe caespitosa basi castanea; foliis lineari-involutis apice acicularibus minute serrulatisque; culmis 1–10 cm. altis gracilibus glabris; bracteis umbellae vaginantibus, basi stramineis vel brunneis, supra in laminam brevem subulato-linearem scabram productis; spicis femineis 1–4 plerumque arcuato-pedunculatis basilariis vel terminalibus plerumque umbellatis, ellipsoideis vel ovoideis 0.5–1.5 cm. longis interdum apice masculis; pedunculis valde inaequalibus 0.2–7 cm. longis; spicis masculis 1–2 plerumque 1–1.5 cm. longis, sessilibus vel pedunculatis, pedunculis usque 3.5 cm. longis; squamis femineis atropurpureis lucidis ovatis subacutis, masculis obovatis apice rotundatis plus minusve albido-hyalinisque; perigyniis squama longioribus oblongo-lanceolatis 5–6 mm. longis, 1.7 mm. latis compressis subacuminatis vix rostratis laevibus lucidis atropurpureis enervatis vel obscure nervatis, ore albicanti emarginato, margine integris vel obsolete serrulatis; stigmatibus 2, achaeniis plano-convexis anguste obovatis 1 mm. longis.

Loosely caespitose, the base castaneous: leaves linear-involute, acicular and minutely serrulate at tip: culms 1–10 cm. high, slender, glabrous: bracts of the umbel sheathing, stramineous or brown at base, produced above into a short subulate-linear scabrous lamina: pistillate spikes 1–4, mostly arcuate-peduncled, basal or terminal, mostly umbellate, ellipsoid or ovoid, 0.5–1.5 cm. long, sometimes staminate at apex; peduncles conspicuously unequal, 0.2–7 cm. long: staminate spikes 1 or 2, chiefly 1–1.5 cm. long, sessile or peduncled; the peduncles up to 3.5 cm. long: pistillate scales purple-black, shining,